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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/446,390	12/21/1999	DIETER SCHULER	10191/1234	2255

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EXAMINER
LE, DANG D

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 06/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/446,390	SCHULER ET AL.	
	Examiner	Art Unit	
	Dang D Le	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 May 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-24* is/are pending in the application.

4a) Of the above claim(s) *7-9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6 and 10-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on 5/20/02, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below. The rejections in the last office action also remain.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 15, 20, 21 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Burr et al.

Regarding claim 15, Burr et al. show an electric machine equip with a collector (1), comprising:

- An end face with a plurality of channels (Figure 2); and
- A supply of lubricant (3) in an area of the end face allocated to the collector, wherein the brush has a plurality of grooves (2) along the collector-side end face and wherein the grooves are open at each end along the collector-side end face (Figure 2).

Regarding claim 20, Burr et al. show an electric machine comprising:

- A commutator (column 1, lines 1-5);
- At least one brush (1), wherein a collector-side end face of the at least one brush has a plurality of channels (Figure 2); and
- A supply of lubricant (3) for providing lubrication between the commutator and the at least one brush;
- Wherein the at least one brush contains the lubricant at a location which is least one of: (a) in or on a collector-side end face of the at least one brush, and (b) in or on a partial length of the at least one brush beginning at the collector-side end face of the at least one brush, wherein the brush has a plurality of grooves (2) along the collector-side end face and wherein the grooves are open at each end along the collector-side end face (Figure 2).

Regarding claims 21 and 24, it is noted that Burr et al. also show the collector having a plurality of grooves.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 6, 10, 11, 14, 16, 19, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burr et al. in view of Portail.

Regarding claim 6, Burr et al. show an electric machine comprising:

- A commutator (column 1, lines 1-5);
- At least one brush (1);
- A supply of soft lubricant (3) for providing lubrication between the commutator and the at least one brush;
- Wherein the at least one brush contains the lubricant at least one of: (a) in or on a collector-side end face of the at least one brush, and (b) in or on a partial length of the at least one brush beginning at the collector-side end face of the at least one brush, wherein the brush has a plurality of grooves (2) along the collector-side end face and wherein the grooves are open at each end along the collector-side end face (Figure 2).

Burr et al. do not use the oil lubricant.

Portail shows the lubricant being oil (11) for the purpose of reducing friction.

Since Burr et al. and Portail are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use oil lubricant instead of soft lubricant as taught by Portail for the purpose discussed above.

Regarding claim 10, Burr et al. shows a brush (1) for an electric machine equipped with a collector (1) comprising:

- An end surface (top of Figure 2); and
- A supply of soft lubricant (3) in an area of the end face allocated to the collector, wherein the brush has a plurality of grooves (2) along the collector-side end face and wherein the grooves are open at each end along the collector-side end face (Figure 2).

Burr et al. do not use oil lubricant.

Portail uses oil lubricant (11) for the purpose of reducing friction.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use oil lubricant instead of soft lubricant as taught by Portail for the purpose discussed above.

Regarding claims 11 and 16, it is noted that Portail also shows the collector/commutator having recesses (4, 10) which function as storage reservoirs for the oil lubricant (Figure 4).

Regarding claims 14 and 19, it is noted that Burr et al. also show the collector-side end face having a plurality of channels (Figure 2).

Regarding claims 22 and 23, it is noted that Burr et al. also show the collector having a plurality of grooves.

6. Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burr et al. in view of Portail as respectively applied to claims 10 and 6 above, and further in view of Grunewald et al.

Regarding claims 12 and 17, the machine of Burr et al. modified by Portail shows all of the limitations of the claimed invention except for the brush being made from carbon, pressed metal powder or alloys thereof.

Grunewald et al. show the brush (11) being made from carbon, pressed metal powder or alloys thereof for the purpose of increasing brush life hours.

Since Burr et al., Portail and Grunewald et al. are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the brush from carbon, pressed metal powder or alloys thereof as taught by Grunewald et al. for the purpose discussed above.

7. Claims 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burr et al. in view of Portail as respectively applied to claims 10 and 6 above, and further in view of Rogelein.

Regarding claims 13 and 18, the machine of Burr et al. modified by Portail shows all of the limitations of the claimed invention except for the brush being protected by a dust guard.

Rogelein shows the brush being protected by a dust guard (29) for the purpose of preventing contamination.

Since Burr et al., Portail and Rogelein are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to protect the brush by a dust guard as taught by Rogelein for the purpose discussed above.

8. Claims 6, 10, 11, 14-16 and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruhn in view of Portail.

Regarding claim 6, Bruhn shows an electric machine comprising:

- A commutator (4);
- At least one brush (1);
- Wherein the brush has a plurality of grooves (11, 12) along the collector-side end face and wherein the grooves are open at each end along the collector-side end face (Figure 2).

Bruhn does not a supply of oil lubricant for providing lubrication between the commutator and the at least one brush; wherein the at least one brush contains the lubricant at least one of: (a) in or on a collector-side end face of the at least one brush, and (b) in or on a partial length of the at least one brush beginning at the collector-side end face of the at least one brush.

Portail shows the supply of oil lubricant (3) for providing lubrication between the commutator and the at least one brush; wherein the at least one brush contains the lubricant at least one of: (a) in or on a collector-side end face of the at least one brush,

and (b) in or on a partial length of the at least one brush beginning at the collector-side end face of the at least one brush (Figures 1-4) for the purpose of reducing friction.

Since Bruhn and Portail are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a supply of oil lubricant for lubrication between the commutator and the at least one brush; wherein the at least one brush contains the lubricant at least one of: (a) in or on a collector-side end face of the at least one brush, and (b) in or on a partial length of the at least one brush beginning at the collector-side end face of the at least one brush as taught by Portail for the purpose discussed above.

Regarding claim 10, Bruhn shows a brush (1) for an electric machine equipped with a collector (4) comprising:

- An end surface (3, Figure 2); and
- Wherein the brush has a plurality of grooves (11, 12) along the collector-side end face and wherein the grooves are open at each end along the collector-side end face (Figure 2).

Bruhn does not show a supply of oil lubricant in an area of the end face allocated to the collector.

Portail shows the supply of oil lubricant (8) in an area of the end face (11) allocated to the collector (1) for the purpose of reducing friction.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a supply of oil lubricant in an area of the end face allocated to the collector as taught by Portail for the purpose discussed above.

Regarding claim 15, Bruhn shows a brush (1) for an electric machine equip with a collector (4), comprising:

- An end face (3) of the brush (Figure 2) with the plurality of channels (11, 12); and
- Wherein the brush has a plurality of channels (11, 12) along the collector-side end face and wherein the grooves are open at each end along the collector-side end face (Figure 2).

Bruhn does not show the supply of lubricant in an area of the end face allocated to the collector.

Portail shows the supply of lubricant (3) in an area (11) of the end face allocated to the collector for the purpose of reducing friction.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the supply of lubricant in an area of the end face allocated to the collector as taught by Portail for the purpose discussed above.

Regarding claim 20, Bruhn shows an electric machine comprising:

- A commutator (4);
- At least one brush (1), wherein a collector-side end face of the at least one brush has a plurality of channels (11, 12, Figure 2); and

- Wherein the channels are open at each end along the collector-side end face (Figure 2).

Bruhn does not show a supply of lubricant for providing lubrication between the commutator and the at least one brush; wherein the at least one brush contains the lubricant at a location which is least one of: (a) in or on a collector-side end face of the at least one brush, and (b) in or on a partial length of the at least one brush beginning at the collector-side end face of the at least one brush.

Portail shows a supply of lubricant (Figures 1-4) for providing lubrication between the commutator and the at least one brush; wherein the at least one brush contains the lubricant at a location which is least one of: (a) in or on a collector-side end face of the at least one brush, and (b) in or on a partial length of the at least one brush beginning at the collector-side end face of the at least one brush for the purpose of reducing friction.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a supply of lubricant for lubrication between the commutator and the at least one brush; wherein the at least one brush contains the lubricant at a location which is least one of: (a) in or on a collector-side end face of the at least one brush, and (b) in or on a partial length of the at least one brush beginning at the collector-side end face of the at least one brush taught by Portail for the purpose discussed above.

Regarding claims 11 and 16, it is noted that Portail also shows the collector/commutator having recesses (4, 10) which function as storage reservoirs for the oil lubricant (Figure 4).

Regarding claims 14 and 19, it is noted that Bruhn also shows the collector-side end face having a plurality of channels (Figure 2).

Regarding claims 21-24, it is noted that Bruhn also shows the collector having a plurality of grooves (11, 12).

9. Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruhn in view of Portail as respectively applied to claims 10 and 6 above, and further in view of Grunewald et al.

Regarding claims 12 and 17, the machine of Bruhn modified by Portail shows all of the limitations of the claimed invention except for the brush being made from carbon, pressed metal powder or alloys thereof.

Grunewald et al. show the brush (11) being made from carbon, pressed metal powder or alloys thereof for the purpose of increasing brush life hours.

Since Bruhn, Portail and Grunewald et al. are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the brush from carbon, pressed metal powder or alloys thereof as taught by Grunewald et al. for the purpose discussed above.

10. Claims 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruhn in view of Portail as respectively applied to claims 10 and 6 above, and further in view of Rogelein.

Regarding claims 13 and 18, the machine of Bruhn modified by Portail shows all of the limitations of the claimed invention except for the brush being protected by a dust guard.

Rogelein shows the brush being protected by a dust guard (29) for the purpose of preventing contamination.

Since Bruhn, Portail and Rogelein are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to protect the brush by a dust guard as taught by Rogelein for the purpose discussed above.

Information on How to Contact USPTO

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

DDL
June 25, 2002